# THE ORAL HEALTH OF MISSISSIPPI'S THIRD GRADE CHILDREN 2004-2005 SCHOOL YEAR



**OCTOBER 2005** 

MISSISSIPPI DEPARTMENT OF HEALTH

# **ACKNOWLEDGMENT**

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# **FUNDING**

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### **SUMMARY**

During the 2004-2005 school year, the Mississippi Department of Health conducted a statewide oral health survey of third grade children enrolled in Mississippi's public elementary schools. Dental professionals screened 2,824 children in 48 randomly selected elementary schools using disposable dental mirrors and penlights. Following are the key findings.

### **Key Findings**

- ⇒ Dental decay is a significant health problem for Mississippi's third grade children.
  - 69 percent have cavities and/or fillings (decay experience)
  - 39 percent have untreated dental decay (cavities)
- ⇒ Many Mississippi children are attending school with infection or pain from dental disease.
  - 10 percent need urgent dental care because of pain or infection. This could mean that more than 3,800 third grade children have pain or infection because of dental decay.
- ➡ While dental sealants are a proven method for preventing decay, the majority of Mississippi's third grade children do not have access to this valuable preventive service.
  - Only 26 percent of the third grade children have dental sealants
- African American children have poorer oral health and less access to preventive dental sealants.
  - Compared to white children, African American children have a significantly higher prevalence of decay experience and untreated decay; but a significantly lower prevalence of protective dental sealants. In addition, almost twice as many African American children are in need of urgent care because of pain or infection (12% vs. 7%).
- ⇔ Children from low-income schools have poorer oral health and less access to preventive dental sealants.
  - Compared to children from higher income schools (<50% eligible for free or reduced price meals), children in low-income schools (≥ 75% eligible for free or reduced price meals) have a significantly higher prevalence of decay experience and untreated decay; plus a significantly lower prevalence of dental sealants.
- ⇒ In general, children in Mississippi, compared to children from other states, have poorer oral health.
  - Mississippi ranks as the 4<sup>th</sup> worst in the prevalence of children with decay experience, untreated decay, and dental sealants. Only Arkansas ranks lower than Mississippi in all three areas of oral health status.
- Considerable progress must be made if Mississippi is to meet the Healthy People 2010 oral health objectives.

## Methods

### Sampling

An electronic data file of all public elementary schools in Mississippi was obtained from the Mississippi Department of Education. The data file, which was for the 2003-2004 school year, contained the following information for each school – district, county, total enrollment, 3<sup>rd</sup> grade enrollment, number of children participating in the free or reduced price lunch program, enrollment by race/ethnicity, and school address. During the 2003-2004 school year, there were 448 schools in Mississippi with 3<sup>rd</sup> grade (38,041 students). All of these 448 schools were included in the sampling frame. Implicit stratification by health district region along with percent of children eligible for the free or reduced price lunch (FRL) program was used to select a probability sample of 48 schools. The sampling frame was ordered by health district region then by percent of students eligible for the FRL program. A random number between 1 and 10 was selected (n=3); the 3<sup>rd</sup> school was selected with every 10<sup>th</sup> school thereafter. Selecting a sample using implicit stratification assures that the sample is representative of the state's schools in terms of both health district region and free/reduced lunch participation. If a school refused to participate, a replacement school within the same sampling strata was selected. Data is available for all 48 sampling strata.

Data Management and Analysis: Data was entered into a database and analysis was completed using Epi Info Version 3.2.2. Epi Info is a public access software program developed and supported by the Centers for Disease Control and Prevention. The data were adjusted for non-response within each school. For the non-response sampling weight, the number of children enrolled in each school was divided by the number of children screened. Analyses were completed assuming simple random sampling procedures without consideration for primary sampling units or stratification.

Screening Methods: All children in third grade that returned a consent form specifically requesting that they take part in the survey were screened (active consent). Dental professionals completed the screenings using gloves, penlights, and disposable mouth mirrors. The diagnostic criteria outlined in **Basic Screening Surveys:** An Approach to Monitoring Community Oral Health were used. The dental professionals attended a full-day training session which included a didactic review of the diagnostic criteria along with a hands-on calibration session. Information on age, gender and race was obtained from the schools on receipt of the parental permission forms and verified by the screener.

# **Results**

### **Overall Results**

Of the 48 schools in the original sample, 41 agreed to participate and 7 schools were replaced by randomly selected schools within the same sampling strata. There were 4,571 children enrolled in the participating schools with 2,824 children screened; a 62 percent response rate. In terms of eligibility for the free and/or reduced price meal program, the participating schools did not differ from all elementary schools in the state. The racial mix of students in the participating schools, however, was slightly different than the statewide mix. For all elementary schools in Mississippi, 50 percent of students are African American, while 53 percent of the students in the participating schools and 54 percent of the children screened were African American. Refer to Tables 1 and 2.

The majority of the children screened (94%) were either 9 or 10 years of age. About half of the children (49%) were male, 44 percent were white non-Hispanic and 54 percent were African-American. Refer to Table 3.

Sixty-nine percent of the children screened had decay experience (untreated decay or fillings) in their primary and/or permanent teeth while 39 percent had untreated decay at the time of the screening. About 42 percent of the children needed dental treatment including 10 percent in need of urgent dental care because of pain or infection. Refer to Table 4.

Only 26 percent of the children had a dental sealant on at least one permanent molar. Dental sealants provide an effective way to prevent decay on the chewing surfaces of molars (back teeth), which are most vulnerable to caries. A clear resin is used to cover the "pits and fissures" on the top of the teeth so that cavity-causing bacteria cannot reach areas that are difficult to clean and for fluoride to penetrate. Refer to Table 4.

### Impact of Race and Ethnicity

Table 5 compares the oral health of white non-Hispanic children with African American children. In Mississippi, African American children have a significantly higher prevalence of decay experience, untreated decay, and urgent treatment needs; but a significantly lower prevalence of preventive dental sealants.

### Impact of Socioeconomic Status

Eligibility for the free and/or reduced price lunch (FRL) program is often used as an indicator of overall socioeconomic status. To be eligible for the FRL program during the 2004-2005 school year, annual family income for a family of four could not exceed \$34,873.<sup>2</sup> While information on eligibility for the FRL program is not available at the student level it is available at the school level. The schools taking part in the oral health survey were categorized into four income levels based on the percentage of children eligible for the FRL program.

Moderate income: 25% - 49.9% of students eligible.

<sup>&</sup>lt;sup>1</sup> The percent of children with untreated decay is assumed to be an under estimation because radiographs (x-rays) were not taken.

<sup>&</sup>lt;sup>2</sup> U.S. Department of Agriculture, Child Nutrition Programs, School Lunch Program, Income Eligibility Guidelines SY 2004-2005, http://www.fns.usda.gov/cnd/governance/notices/iegs/IEGs04-05.pdf.

- Middle-low income: 50% 74.9% of the students eligible.
- Low income: 75% or more of the students eligible.

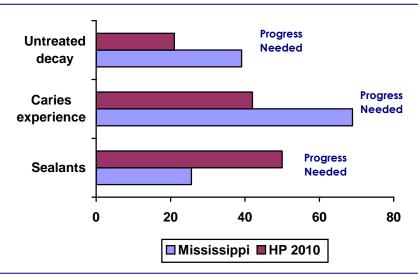
Children at low-income schools, compared to children at moderate income schools, had a significantly higher prevalence of decay experience, untreated decay and urgent treatment needs. There was also a significantly lower prevalence of dental sealants at low-income schools. Refer to Table 6.

### Comparison to Healthy People 2010 Objectives

The National Oral Health Objectives for the Year 2010 (Healthy People 2010) outline several oral health status objectives for young children. For six- to eight-year-old children there are three primary oral health status objectives:

- To decrease the proportion of children who have experienced dental caries in permanent or primary teeth to 42 percent.
- To decrease the proportion of children with untreated dental caries in permanent or primary teeth to 21 percent.
- To increase the proportion of eight-year-olds receiving protective sealing of the occlusal surfaces of permanent molar teeth to 50 percent.

It should be noted that the Mississippi Oral Health Survey was not designed to be representative of 6-8 year old children; with the majority of children screened being 9-10 years of age. Sixty-nine percent of the 3<sup>rd</sup> graders screened in Mississippi had experienced dental caries - substantially higher than the HP2010 objective of 42 percent. Thirty-nine percent of  $3^{\text{rd}}$ graders Mississippi's had untreated caries compared to the HP2010 objective of 21 percent and 26 percent of Mississippi's 3<sup>rd</sup> had dental sealants



compared to the HP2010 objective of 50 percent.

### **Comparison to Other States**

Figures 1-3 compare the oral health of Mississippi's third grade children with the oral health of children from several other states. Each of the states represented in the figures gathered oral health status information using the same protocols as Mississippi. In general, Mississippi children have poorer oral health than children from most other states. In fact, Mississippi ranks 4<sup>th</sup> worst for the prevalence of decay experience, untreated decay and dental sealants. Only Arkansas ranks worse than Mississippi in all oral health indicators.

# **Figures**

Figure 1
Prevalence of Decay Experience in 3<sup>rd</sup> Grade Children
Mississippi Compared to Other States with Similar Data

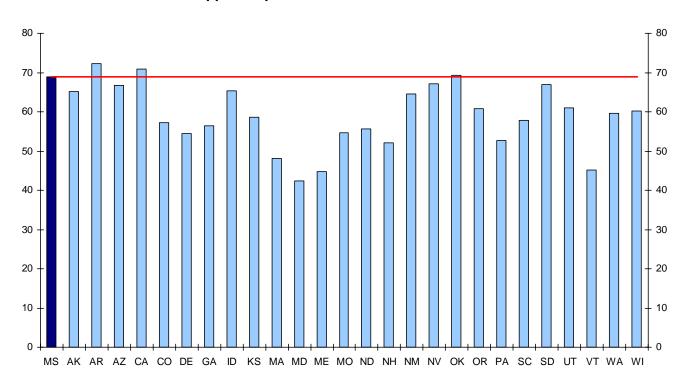


Figure 2
Prevalence of Untreated Decay in 3<sup>rd</sup> Grade Children
Mississippi Compared to Other States with Similar Data

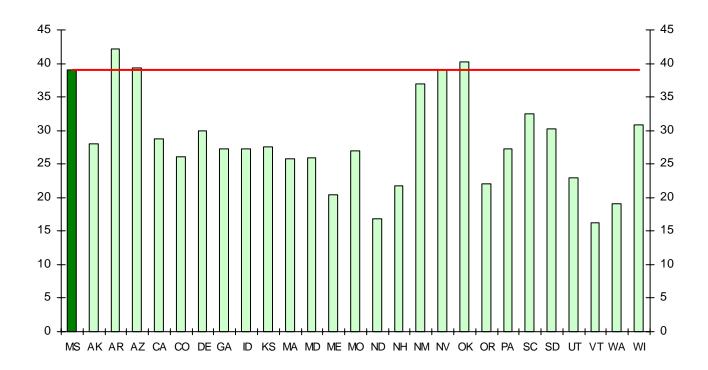
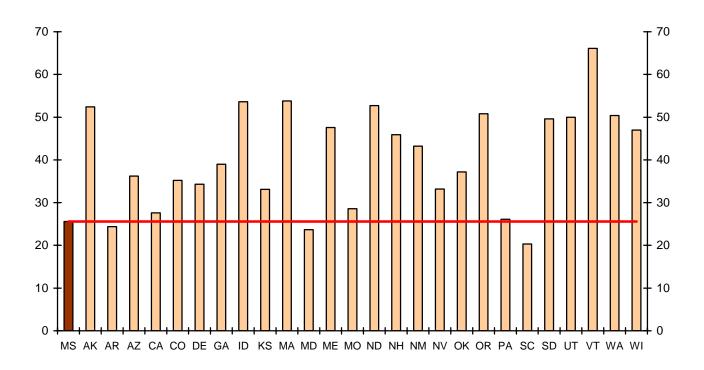


Figure 3
Prevalence of Dental Sealants in 3<sup>rd</sup> Grade Children
Mississippi Compared to Other States with Similar Data



# **Data Tables**

Table 1
Participation in the Mississippi Oral Health Survey

| Number of Schools | Number of 3 <sup>rd</sup> Grade | Number of 3 <sup>rd</sup> Grade | Response Rate |
|-------------------|---------------------------------|---------------------------------|---------------|
| in Sample         | Children Enrolled               | Children Screened               |               |
| 48                | 4,571                           | 2,824                           | 61.8%         |

Table 2
Enrollment, Free/Reduced Price Lunch Program Participation, and Racial Composition for all Mississippi Elementary Schools with 3<sup>rd</sup> Grade and Sample Schools

|  | 3 <sup>rd</sup> Grade<br>Enrollment | % on FRL | % White | % African<br>American | % Other<br>Race |
|--|-------------------------------------|----------|---------|-----------------------|-----------------|
| Schools with 3 <sup>rd</sup> Grade (n=448) | 38,041                              | 70.8     | 47.6    | 50.3                  | 2.1             |
| Sample Schools (n=48)                      | 4,571                               | 70.4     | 44.5    | 53.1                  | 2.4             |
| Children Screened (n=2,824)                | NA                                  | NA       | 43.6    | 53.7                  | 2.7             |

Source: Mississippi Department of Education, 2003-2004 School Year

Figure 4
Free/Reduced Price Lunch Program Participation by District and Racial Composition for 3<sup>rd</sup>
Grade Children Screened

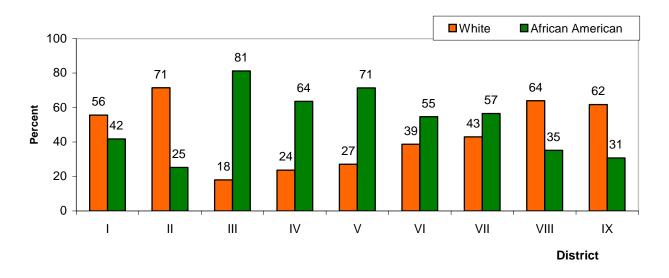


Table 3
Age, Gender and Race/Ethnicity of 3<sup>rd</sup> Grade Children Screened

| Variable   | Number of Children<br>With Valid Data | Mean or Percent                   |
|--|---------------------------------------|-----------------------------------|
| Age: Mean (Standard Deviation)                             | 2,821                                 | 9.4 (0.65)                        |
| Age Range: < 9 years 9 years 10 years 11 years > 11 years  | 2,821                                 | 0.9<br>66.6<br>27.0<br>4.9<br>0.6 |
| Gender<br>% Female<br>% Male                               | 2,824                                 | 51.1<br>48.9                      |
| Race/Ethnicity<br>% White<br>% African American<br>% Other | 2,806                                 | 43.6<br>53.7<br>2.7               |

Table 4
Gender and Race/Ethnicity of 3<sup>rd</sup> Grade Children Screened Stratified by District

7.8

Race/Ethnicity Gender **District Female** Male White AA Other 1 54.0 46.0 59.7 37.2 3.1 Ш 49.4 50.6 71.3 25.4 3.3 Ш 54.2 45.9 15.6 83.7 0.7 45.2 61.7 IV 54.8 24.8 13.5 49.5 50.5 30.4 67.9 1.7 V VI 49.4 50.6 41.0 51.9 7.2 48.0 43.5 0.5 VII 52.0 56.1 VIII 53.7 46.3 35.4 0.9 63.7

65.9

26.3

47.9

52.1

IX

Table 5
Oral Health Status of Mississippi's 3<sup>rd</sup> Grade Children
Adjusted for Non-Response

|   | Number with Data | Percent             | 95% CI                                   |
|---|------------------|---------------------|--|
| % caries free   | 2,822            | 31.1                | 29.8 – 32.5                              |
| % with caries experience  | 2,822            | 68.9                | 67.5 – 70.2                              |
| % with untreated decay  | 2,823            | 39.1                | 37.7 – 40.5                              |
| % with dental sealants  | 2,819            | 25.6                | 24.3 – 26.8                              |
| Treatment Need % with no obvious problem % needing early dental care % needing urgent dental care | 2,820            | 57.6<br>32.5<br>9.9 | 56.2 - 59.1<br>31.1 - 33.9<br>9.0 - 10.8 |

Table 6
Oral Health Status of 3<sup>rd</sup> Grade Children Stratified by District
Adjusted for Non-Response

| District | Caries     | Untreated | Dental   | Treatment Need    |             |  |
|----------|------------|-----------|----------|-------------------|-------------|--|
| District | Experience | Decay     | Sealants | Early Dental care | Urgent Care |  |
| ı        | 68.7       | 46.2      | 28.0     | 29.7              | 16.3        |  |
| 11       | 76.2       | 51.9      | 34.9     | 62.0              | 12.6        |  |
| III      | 69.9       | 47.2      | 12.0     | 36.7              | 14.1        |  |
| IV       | 61.6       | 52.0      | 16.0     | 35.9              | 20.0        |  |
| V        | 67.6       | 28.9      | 29.7     | 25.1              | 4.3         |  |
| VI       | 76.1       | 51.6      | 24.6     | 33.4              | 19.4        |  |
| VII      | 70.7       | 29.9      | 19.0     | 24.7              | 1.4         |  |
| VIII     | 64.5       | 20.9      | 33.8     | 16.5              | 1.4         |  |
| IX       | 59.5       | 28.9      | 28.1     | 29.6              | 2.6         |  |

Table 7
Oral Health Status of Mississippi's 3<sup>rd</sup> Grade Children Stratified by Race Adjusted for Non-Response

| Variable                 |                | nite<br>,224) | African American<br>(n=1,508) |             |  |
|--------------------------|----------------|---------------|-------------------------------|-------------|--|
|                          | Percent 95% CI |               | Percent                       | 95% CI      |  |
| % with caries experience | 64.9           | 62.8 - 67.0   | 71.8                          | 70.0 - 73.6 |  |
| % with untreated decay   | 32.6           | 30.6 - 34.7   | 44.3                          | 42.3 - 46.3 |  |
| % with dental sealants   | 34.2           | 32.2 - 36.3   | 18.4                          | 16.9 - 20.1 |  |
| % needing treatment      | 38.0           | 35.9 - 40.2   | 45.5                          | 43.5 – 47.6 |  |
| % urgent treatment       | 6.6            | 5.6 - 7.8     | 12.3                          | 11.0 - 13.7 |  |

Table 8
Oral Health Status of 3<sup>rd</sup> Grade Children Stratified by District and Race
Adjusted for Non-Response

|          |              |               |             |              |              |     |                 |     |               | (OTHE: 70) |
|----------|--------------|---------------|-------------|--------------|--------------|-----|-----------------|-----|---------------|------------|
| District | Car<br>Exper | ies<br>rience | Untre<br>De | eated<br>cay | Der<br>Seala |     | Needin<br>Denta |     | Needing<br>Ca |            |
|          | White        | AA*           | White       | AA*          | White        | AA* | White           | AA* | White         | AA*        |
| 1        | 63           | 75            | 42          | 51           | 34           | 19  | 32              | 25  | 9             | 28         |
| II       | 72           | 87            | 46          | 67           | 38           | 28  | 61              | 63  | 11            | 16         |
| III      | 74           | 69            | 35          | 49           | 23           | 10  | 42              | 36  | 6             | 15         |
| IV       | 58           | 61            | 43          | 50           | 15           | 20  | 35              | 30  | 19            | 20         |
| V        | 63           | 70            | 17          | 34           | 42           | 25  | 15              | 30  | 1             | 6          |
| VI       | 72           | 79            | 44          | 60           | 37           | 17  | 28              | 39  | 18            | 21         |
| VII      | 68           | 73            | 27          | 32           | 26           | 14  | 24              | 25  | 1             | 2          |
| VIII     | 65           | 63            | 19          | 23           | 40           | 23  | 12              | 24  | 1             | 2          |
| IX       | 55           | 69            | 27          | 35           | 30           | 21  | 29              | 32  | 2             | 2          |

\* AA : African-American

Figure 5
Percentage of With Caries Experience of 3<sup>rd</sup> Grade Children Stratified by District and Race Adjusted for Non-Response

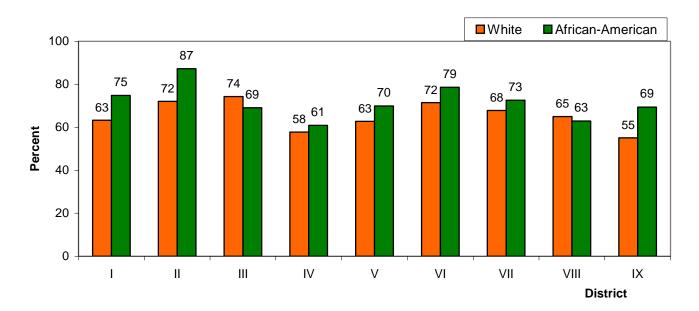


Figure 6
Percentage of With Untreated Decay of 3<sup>rd</sup> Grade Children Stratified by District and Race
Adjusted for Non-Response

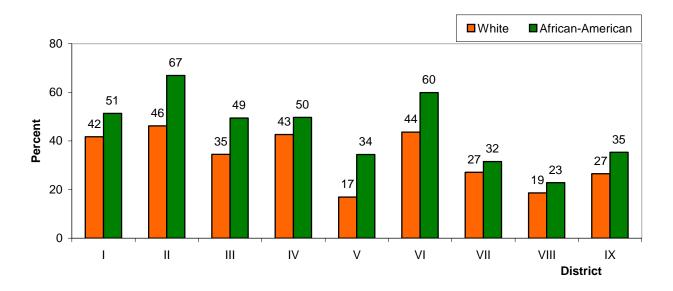


Figure 7
Percentage of With Dental Sealants of 3<sup>rd</sup> Grade Children Stratified by District and Race Adjusted for Non-Response

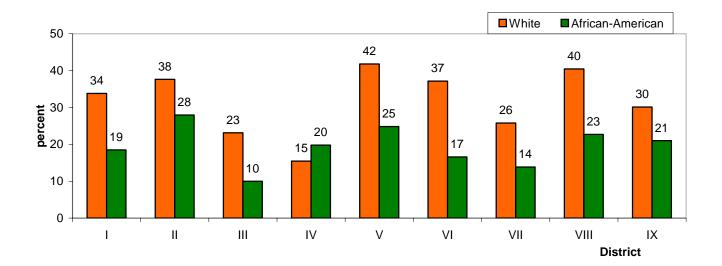


Figure 8
Percentage of Needing Dental Care of 3<sup>rd</sup> Grade Children Stratified by District and Race
Adjusted for Non-Response

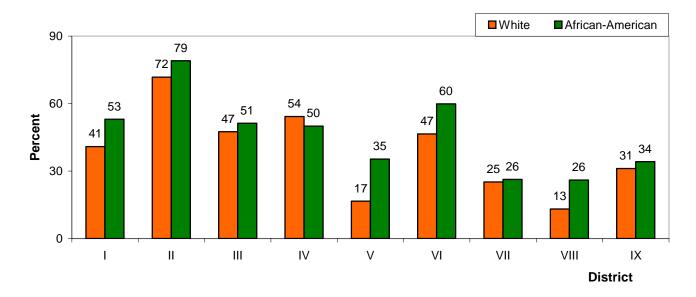


Table 9
Oral Health Status of Mississippi's 3<sup>rd</sup> Grade Children
Stratified by Free/Reduced Lunch Status of School
Adjusted for Non-Response

| Variable                    | Percent of Students Participating in FRL Program |                       |                       |                       |  |  |  |  |
|-----------------------------|--|-----------------------|-----------------------|-----------------------|--|--|--|--|
| variable                    | < 25.0%  | 25.0-49.9%            | 50.0-74.9%            | <u>≥</u> 75%          |  |  |  |  |
| Number of schools           | 0  | 6                     | 18                    | 24                    |  |  |  |  |
| Number of children screened | 0  | 609                   | 928                   | 1,287                 |  |  |  |  |
| Race/Ethnicity              |  |                       |                       |                       |  |  |  |  |
| White                       |  | 78.8                  | 62.7                  | 11.7                  |  |  |  |  |
| African American            | NA   | 18.6                  | 34.6                  | 85.3                  |  |  |  |  |
| With caries experience      | NA   | 63.7<br>(60.8 - 66.4) | 69.5<br>(67.0 - 71.8) | 71.5<br>(69.5 - 73.5) |  |  |  |  |
| With untreated decay        | NA   | 33.2<br>(30.5 - 36.0) | 38.2<br>(35.7 - 40.8) | 43.3<br>(41.1 - 45.6) |  |  |  |  |
| With dental sealants        | NA   | 37.2<br>(34.4 - 40.0) | 29.2<br>(26.9 - 31.6) | 15.8<br>(14.3 - 17.6) |  |  |  |  |
| Needing treatment           | NA   | 39.6<br>(36.8 - 42.5) | 41.4<br>(38.9 - 44.0) | 44.7<br>(42.5 - 46.9) |  |  |  |  |
| Needing urgent treatment    | NA   | 7.4<br>(6.0 - 9.1)    | 9.6<br>(8.2 - 11.3)   | 11.5<br>(10.2 - 13.1) |  |  |  |  |
| District                    |  |                       |                       |                       |  |  |  |  |
| 1                           | 0.0  | 62.5                  | 22.7                  | 14.8                  |  |  |  |  |
| II .                        | 0.0  | 47.0                  | 38.9                  | 14.1                  |  |  |  |  |
| III                         | 0.0  | 0.0                   | 26.4                  | 73.6                  |  |  |  |  |
| IV                          | 0.0  | 1.1                   | 38.6                  | 60.4                  |  |  |  |  |
| V                           | 0.0  | 34.8                  | 12.1                  | 53.1                  |  |  |  |  |
| VI                          | 0.0  | 29.2                  | 20.4                  | 50.5                  |  |  |  |  |
| VII                         | 0.0  | 0.0                   | 45.0                  | 55.0                  |  |  |  |  |
| VIII                        | 0.0  | 0.4                   | 64.6                  | 35.0                  |  |  |  |  |
| IX                          | 0.0  | 22.5                  | 50.9                  | 26.7                  |  |  |  |  |

Table 10 Oral Health Status of Mississippi's 3<sup>rd</sup> Grade Children Stratified by Gender Adjusted for Non-Response

| Variable                   |         | male<br>1,443) | Male<br>(n=1,381) |             |  |
|----------------------------|---------|----------------|-------------------|-------------|--|
|                            | Percent | 95% CI         | Percent           | 95% CI      |  |
| % with caries experience   | 67.9    | 66.0 - 69.8    | 69.9              | 67.9 - 71.8 |  |
| % with untreated decay     | 38.7    | 36.8 - 40.7    | 39.5              | 37.5 - 41.6 |  |
| % with dental sealants     | 26.7    | 25.0 - 28.6    | 24.3              | 22.5 - 26.2 |  |
| % needing treatment        | 41.5    | 39.5 - 43.5    | 43.3              | 41.2 - 45.4 |  |
| % needing urgent treatment | 9.7     | 8.5 - 11.0     | 10.1              | 8.9 - 11.4  |  |

Table 11
Oral Health Status of 3<sup>rd</sup> Grade Children Stratified by District and Gender
Adjusted for Non-Response

|          |                |      |              |      |              |      |                  |      |               | Unit. %) |
|----------|----------------|------|--------------|------|--------------|------|------------------|------|---------------|----------|
| District | Cari<br>Experi |      | Untre<br>Dec |      | Den<br>Seala |      | Needing<br>Denta |      | Needing<br>Ca | _        |
|          | Female         | Male | Female       | Male | Female       | Male | Female           | Male | Female        | Male     |
| 1        | 68             | 69   | 46           | 47   | 27           | 29   | 29               | 31   | 15            | 17       |
| 11       | 77             | 75   | 51           | 53   | 38           | 32   | 61               | 63   | 13            | 12       |
| III      | 70             | 70   | 52           | 41   | 14           | 9    | 40               | 33   | 15            | 13       |
| IV       | 61             | 62   | 48           | 56   | 13           | 20   | 26               | 48   | 26            | 12       |
| V        | 65             | 71   | 25           | 33   | 33           | 27   | 22               | 28   | 4             | 5        |
| VI       | 77             | 76   | 54           | 49   | 22           | 27   | 36               | 31   | 18            | 21       |
| VII      | 66             | 76   | 25           | 36   | 21           | 16   | 20               | 30   | 1             | 2        |
| VIII     | 64             | 65   | 22           | 20   | 32           | 35   | 17               | 16   | 2             | 1        |
| IX       | 60             | 58   | 29           | 28   | 30           | 26   | 29               | 30   | 2             | 3        |

Figure 9
Percentage of With Caries Experience of 3<sup>rd</sup> Grade Children Stratified by District and Gender Adjusted for Non-Response

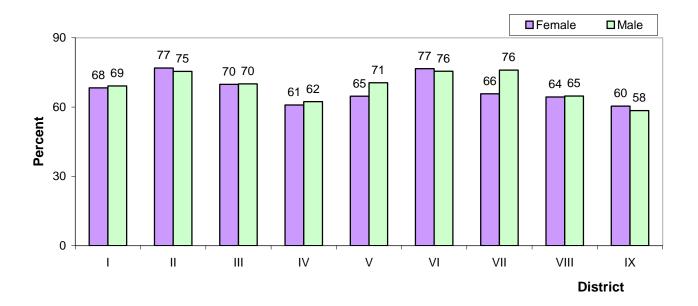


Figure 10
Percentage of With Untreated Decay of 3<sup>rd</sup> Grade Children Stratified by District and Gender Adjusted for Non-Response

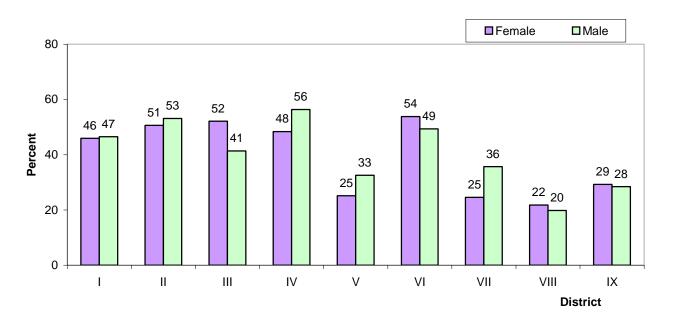


Figure 11
Percentage of With Dental Sealants of 3<sup>rd</sup> Grade Children Stratified by District and Gender Adjusted for Non-Response

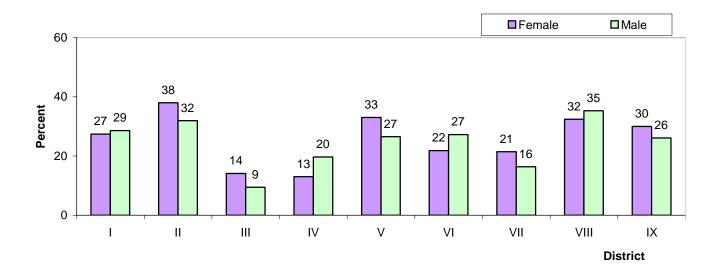
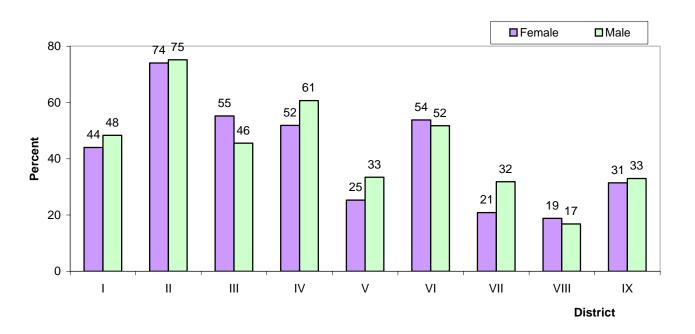


Figure 12
Percentage of Needing Dental Care of 3<sup>rd</sup> Grade Children Stratified by District and Gender Adjusted for Non-Response



Appendix 1
Participating School Name, County, City and Percent of Students in School that Participate in the Free or Reduced Price School Lunch Program

| School Name                 | County      | City           | FR Lunch % |
|-----------------------------|-------------|----------------|------------|
| Chickasaw                   | Desoto      | Olive Branch   | 25.2%      |
| Pecan Park                  | Jackson     | Ocean Springs  | 26.6%      |
| Brandon                     | Rankin      | Brandon        | 30.8%      |
| West Lauderdale             | Lauderdale  | Meridian       | 33.7%      |
| Saltillo                    | Lee         | Saltillo       | 44.2%      |
| French Camp                 | Choctaw     | French Camp    | 48.3%      |
| Rocky Creek                 | George      | Lucedale       | 50.4%      |
| Joyner                      | Lee         | Tupelo         | 51.8%      |
| Dixie Attendance Center     | Forrest     | Hattiesburg    | 55.7%      |
| McLeod                      | Hinds       | Jackson        | 55.9%      |
| Mantachie Attendance Center | Itawamba    | Mantachie      | 56.2%      |
| Senatobia                   | Tate        | Senatobia      | 57.2%      |
| North Pike                  | Pike        | Summit         | 58.9%      |
| West Side                   | Pearl River | Picayune       | 59.8%      |
| Southeast                   | Lauderdale  | Meridian       | 63.1%      |
| Diberville                  | Harrison    | Diberville     | 63.3%      |
| Kosciusko Middle            | Attala      | Kosciusko      | 64.6%      |
| Baldwyn                     | Prentiss    | Baldwyn        | 64.9%      |
| East Jones                  | Jones       | Laurel         | 65.9%      |
| Franklin Academy            | Lowndes     | Columbus       | 66.8%      |
| Velma Jackson               | Madison     | Camden         | 68.2%      |
| Orange Lake                 | Jackson     | Moss Point     | 68.5%      |
| Plantersville               | Lee         | Plantersville  | 70.7%      |
| Glade                       | Jones       | Laurel         | 74.8%      |
| Pass Christian              | Harrison    | Pass Christian | 76.3%      |
| Timberlawn                  | Hinds       | Jackson        | 77.3%      |
| H W Byers Attendance Center | Marshall    | Holly Springs  | 81.5%      |
| Vardaman                    | Calhoun     | Vardaman       | 81.8%      |
| Dana Road                   | Warren      | Vicksburg      | 82.3%      |
| Forest                      | Scott       | Forest         | 83.4%      |
| Lumberton                   | Lamar       | Lumberton      | 85.6%      |
| Gautier                     | Jackson     | Gautier        | 85.9%      |
| Marshall                    | Hinds       | Jackson        | 87.5%      |
| Tylertown                   | Walthall    | Tylertown      | 89.8%      |
| Como                        | Panola      | Como           | 90.4%      |

| School Name             | County     | City        | FR Lunch % |
|-------------------------|------------|-------------|------------|
| Ruleville Central       | Sunflower  | Ruleville   | 91.3%      |
| Raines                  | Hinds      | Jackson     | 91.4%      |
| Rowan                   | Forrest    | Hattiesburg | 94.2%      |
| West End (Harris Upper) | Lauderdale | Meridian    | 94.5%      |
| Manning                 | Washington | Greenville  | 95.0%      |
| Union Academy           | Lowndes    | Columbus    | 98.1%      |
| Ida Greene Lower        | Humphreys  | Belzoni     | 98.1%      |
| Jonestown               | Coahoma    | Jonestown   | 99.7%      |
| Lexington               | Holmes     | Lexington   | 100.0%     |
| Twenty Eighth St.       | Harrison   | Gulfport    | 100.0%     |
| Arthur W Watson Jr.     | Claiborne  | Port Gibson | 100.0%     |
| Threadgill              | Leflore    | Greenwood   | 100.0%     |
| Finch                   | Wilkinson  | Centreville | 100.0%     |

Appendix 2
Participating Schools, Number Screened, 3<sup>rd</sup> Grade Enrollment, Weights, and Response Rates

| Sahaal                      | Number   | 3 <sup>rd</sup> Grade | Maiaht | Response |
|-----------------------------|----------|-----------------------|--------|----------|
| School                      | Screened | Enrollment            | Weight | Rate     |
| Arthur W Watson Jr.         | 107      | 149                   | 1.393  | 71.8%    |
| Baldwyn                     | 50       | 70                    | 1.400  | 71.4%    |
| Brandon                     | 181      | 329                   | 1.818  | 55.0%    |
| Chickasaw                   | 120      | 342                   | 2.850  | 35.1%    |
| Como                        | 28       | 63                    | 2.250  | 44.4%    |
| Dana Road                   | 75       | 123                   | 1.640  | 61.0%    |
| Diberville                  | 68       | 131                   | 1.926  | 51.9%    |
| Dixie Attendance Center     | 39       | 60                    | 1.538  | 65.0%    |
| East Jones                  | 56       | 109                   | 1.946  | 51.4%    |
| Finch                       | 20       | 37                    | 1.850  | 54.1%    |
| Forest                      | 74       | 132                   | 1.784  | 56.1%    |
| Franklin Academy            | 43       | 51                    | 1.186  | 84.3%    |
| French Camp                 | 13       | 18                    | 1.385  | 72.2%    |
| Gautier                     | 28       | 44                    | 1.571  | 63.6%    |
| Glade                       | 54       | 65                    | 1.204  | 83.1%    |
| H W Byers Attendance Center | 36       | 60                    | 1.667  | 60.0%    |
| Ida Greene Lower            | 67       | 160                   | 2.388  | 41.9%    |
| Jonestown                   | 37       | 64                    | 1.730  | 57.8%    |
| Joyner                      | 62       | 98                    | 1.581  | 63.3%    |
| Kosciusko Middle            | 97       | 146                   | 1.505  | 66.4%    |
| Lexington                   | 74       | 112                   | 1.514  | 66.1%    |
| Lumberton                   | 59       | 60                    | 1.017  | 98.3%    |
| Manning                     | 43       | 54                    | 1.256  | 79.6%    |
| Mantachie Attendance Center | 59       | 75                    | 1.271  | 78.7%    |
| Marshall                    | 71       | 75                    | 1.056  | 94.7%    |
| McLeod                      | 38       | 76                    | 2.000  | 50.0%    |
| North Pike                  | 94       | 145                   | 1.543  | 64.8%    |
| Orange Lake                 | 18       | 32                    | 1.778  | 56.3%    |
| Pass Christian              | 42       | 67                    | 1.595  | 62.7%    |
| Pecan Park                  | 62       | 132                   | 2.129  | 47.0%    |
| Plantersville               | 17       | 19                    | 1.118  | 89.5%    |
| Raines                      | 44       | 65                    | 1.477  | 67.7%    |
| Rocky Creek                 | 40       | 56                    | 1.400  | 71.4%    |
| Rowan                       | 34       | 63                    | 1.853  | 54.0%    |
| Ruleville Central           | 49       | 68                    | 1.388  | 72.1%    |
| Saltillo                    | 139      | 210                   | 1.511  | 66.2%    |

| School                  | Number<br>Screened | 3 <sup>rd</sup> Grade<br>Enrollment | Weight | Response<br>Rate |
|-------------------------|--------------------|-------------------------------------|--------|------------------|
| Senatobia               | 98                 | 116                                 | 1.184  | 84.5%            |
| Southeast               | 40                 | 94                                  | 2.350  | 42.6%            |
| Threadgill              | 41                 | 87                                  | 2.122  | 47.1%            |
| Timberlawn              | 54                 | 94                                  | 1.741  | 57.4%            |
| Twenty Eighth St.       | 47                 | 48                                  | 1.021  | 97.9%            |
| Tylertown               | 110                | 139                                 | 1.264  | 79.1%            |
| Union Academy           | 28                 | 29                                  | 1.036  | 96.6%            |
| Vardaman                | 40                 | 50                                  | 1.250  | 80.0%            |
| Velma Jackson           | 22                 | 35                                  | 1.591  | 62.9%            |
| West End (Harris Upper) | 79                 | 103                                 | 1.304  | 76.7%            |
| West Lauderdale         | 94                 | 136                                 | 1.447  | 69.1%            |
| West Side               | 33                 | 80                                  | 2.424  | 41.3%            |

Appendix 3
Prevalence of Decay Experience, Untreated Decay and Sealants by School

| School                      | % with Decay<br>Experience | % with Untreated<br>Decay | % with Dental<br>Sealants |
|-----------------------------|----------------------------|---------------------------|---------------------------|
| Arthur W Watson Jr.         | 82.2                       | 50.5                      | 21.5                      |
| Baldwyn                     | 76.0                       | 58.0                      | 32.0                      |
| Brandon                     | 62.0                       | 16.0                      | 37.2                      |
| Chickasaw                   | 65.8                       | 43.3                      | 35.0                      |
| Como                        | 85.7                       | 71.4                      | 0.0                       |
| Dana Road                   | 85.3                       | 28.0                      | 36.0                      |
| Diberville                  | 51.5                       | 29.4                      | 37.3                      |
| Dixie Attendance Center     | 64.1                       | 21.1                      | 35.9                      |
| East Jones                  | 66.1                       | 23.2                      | 41.1                      |
| Finch                       | 55.0                       | 35.0                      | 0.0                       |
| Forest                      | 81.1                       | 40.5                      | 10.8                      |
| Franklin Academy            | 53.5                       | 41.9                      | 25.6                      |
| French Camp                 | 76.9                       | 46.2                      | 30.8                      |
| Gautier                     | 57.1                       | 32.1                      | 17.9                      |
| Glade                       | 66.7                       | 14.8                      | 38.9                      |
| H W Byers Attendance Center | 86.1                       | 75.0                      | 8.3                       |
| Ida Greene Lower            | 59.7                       | 53.7                      | 4.5                       |
| Jonestown                   | 67.6                       | 56.8                      | 13.9                      |
| Joyner                      | 85.5                       | 58.1                      | 49.2                      |
| Kosciusko Middle            | 78.4                       | 40.2                      | 14.4                      |
| Lexington                   | 81.1                       | 39.2                      | 9.5                       |
| Lumberton                   | 79.7                       | 37.3                      | 35.6                      |
| Manning                     | 72.1                       | 55.8                      | 20.9                      |
| Mantachie Attendance Center | 81.4                       | 64.4                      | 30.5                      |
| Marshall                    | 53.5                       | 32.4                      | 26.8                      |
| McLeod                      | 50.0                       | 28.9                      | 39.5                      |
| North Pike                  | 73.4                       | 38.3                      | 23.4                      |
| Orange Lake                 | 66.7                       | 38.9                      | 11.1                      |
| Pass Christian              | 69.0                       | 33.3                      | 9.5                       |
| Pecan Park                  | 48.4                       | 22.6                      | 35.5                      |
| Plantersville               | 82.4                       | 47.1                      | 23.5                      |
| Raines                      | 70.5                       | 31.8                      | 15.9                      |
| Rocky Creek                 | 77.5                       | 27.5                      | 27.5                      |
| Rowan                       | 52.9                       | 11.8                      | 14.7                      |
| Ruleville Central           | 55.1                       | 42.9                      | 16.3                      |
| Saltillo                    | 66.2                       | 37.4                      | 38.1                      |

| School                  | % with Decay<br>Experience | % with Untreated<br>Decay | % with Dental<br>Sealants |
|-------------------------|----------------------------|---------------------------|---------------------------|
| Senatobia               | 73.5                       | 43.9                      | 14.3                      |
| Southeast               | 75.0                       | 50.0                      | 22.5                      |
| Threadgill              | 70.7                       | 56.1                      | 9.8                       |
| Timberlawn              | 61.1                       | 27.8                      | 22.2                      |
| Twenty Eighth St.       | 74.5                       | 44.7                      | 10.6                      |
| Tylertown               | 71.8                       | 20.0                      | 18.2                      |
| Union Academy           | 50.0                       | 32.1                      | 21.4                      |
| Vardaman                | 77.5                       | 75.0                      | 2.5                       |
| Velma Jackson           | 72.7                       | 45.5                      | 4.5                       |
| West End (Harris Upper) | 77.2                       | 67.1                      | 20.3                      |
| West Lauderdale         | 71.3                       | 51.1                      | 43.6                      |
| West Side               | 57.6                       | 21.2                      | 39.4                      |

Appendix 4
Oral Health Status of Mississippi's 3<sup>rd</sup> Grade Children - for NOHSS Submission
Unadjusted

|                          | Number with Data | Percent | 95% CI      |
|--------------------------|------------------|---------|-------------|
| % with caries experience | 2,822            | 69.6    | 67.9 – 71.3 |
| % with untreated decay   | 2,823            | 39.4    | 37.6 – 41.2 |
| % with dental sealants   | 2,819            | 25.2    | 23.6 – 26.8 |